

REMARKS

Claims 1-21 are currently pending in the application. By this amendment, claim 20 is amended and claim 21 is added for the Examiner's consideration. The above amendment and new claim do not add new matter to the application and are fully supported by the specification. For example, support for the new claim is provided at Figures 2 and 3, and at paragraphs 22 – 26 of the specification. Reconsideration of the rejected claims in view of the following remarks is respectfully requested.

35 U.S.C. §103 Rejection

Claims 1-4 were rejected under 35 U.S.C. §103(a) for being unpatentable over U.S. Patent No. 6,781,992 B1 issued to Rana, *et al.* ("RANA") in view of E.P. Patent Application 1,180,880 issued to Lassers, *et al.* ("LASSERS"). Claims 5-7 were rejected under 35 U.S.C. §103(a) for being unpatentable over RANA in view of U.S. Patent No. 6,381,242 issued to Maher, III, *et al.* ("MAHER"). Claims 8, 10-14, and 20 were rejected under 35 U.S.C. §103(a) for being unpatentable over MAHER in view of LASSERS. Claims 9, and 15-19 were rejected under 35 U.S.C. §103(a) for being unpatentable over MAHER in view of LASSERS and in view of RANA. These rejections are respectfully traversed.

In order to reject a claim under 35 U.S.C. §103(a), the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim

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limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP §2142. Applicants submit that no proper combination of the applied art teaches or suggests each and every feature of the claimed invention.

Claims 1-4

The present invention is directed to a method and system for reordering packets received from a high speed data channel. More specifically, independent claim 1 recites, in pertinent part:

- comparing said context information of the received data packet to an expected sequence count for the given sequence, and storing the received packet with said context information in a memory as a linked list when there is a match, all received packets in the linked list being in order;
- creating a new linked list each time a new data packet is received out-of-order;
- linking in order all subsequent packets received in order to the new linked list;
- constructing a reorder table of addresses of the first packet for all linked lists; and
- reading packets out of the memory in an order specified by the reorder table.

Applicants submit that the combination of RANA and LASSERS does not show or suggest these features.

Applicants agree with the Examiner that RANA fails to disclose a method of creating a new linked list for new out-of-order packets. In particular, Applicants submit that RANA does not teach creating a new linked list each time a new data packet is received out-of-order and linking in order all subsequent packets received in order to the new linked list. Instead, RANA teaches providing a single linked list for all packets, without reference to whether there is an in-order sequence.

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Applicants respectfully submit that LASSERS does not compensate for the deficiencies of RANA. In particular, LASSERS does not show creating a new linked list each time a new data packet is received out-of-order.

LASSERS reorders data packets based upon the originator by resequencing a set of data packets received from multiple originators. (Col. 9, lines 47-48; col. 10, lines 47-48.) LASSERS does this by obtaining a packet and running it through the packet data sequencer 105 to determine the originator of the data packet. The packet data sequencer then creates a linked list, "one for each originator." (Col. 7, line 16.) All packets having the same originator are placed in the same linked list. This ensures that each linked list has data from a single originator, and the data is ordered in a linked list based on the order it is received. (Col. 5, lines 5-58 – col.8, lines 1-36.) Therefore, LASSERS creates a new linked list only when a new originator arrives. LASSERS does not create a new linked list each time a new data packet is received out-of-order.

Accordingly, Applicants respectfully request that the rejection over claim 1 be withdrawn.

Claims 5-7

Applicants further submit that claims 5-7 depend from an allowable base claim. As such, claims 5-7 include the features of the base claim. Accordingly, Applicants respectfully submit that claims 5-7 include allowable subject matter.

Claims 8, 10-14, and 20

Independent claim 8 recites, in pertinent part:

- providing a sequence number with each of the stored in-sequence and the out-of-sequence packet chain;
- associating the sequence number with an address in the memory of at least one of the stored in-sequence and the out-of-sequence packet chain;
- ordering the at least one of the in-sequence and the out-of-sequence packet chain from the memory based on the associated

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sequence number to provide one or more packet flows all in-sequence;
and
creating a linked list each time a new data packet is received out-of-sequence and linking in order all subsequent packets received in sequence to the linked list.

Independent claim 20 recites, in pertinent part:

provide a sequence number with each of the stored in-sequence and the out-of-sequence packet chain;
associate the sequence number with an address in the memory of at least one of the stored in-sequence and the out-of-sequence packet chain;
order the at least one of the in-sequence and the out-of-sequence packet chain from the memory based on the associated sequence number to provide one or more packet flows all in-sequence; and
create a linked list each time a new data packet of the packet chain is received out-of-sequence and linking in order all subsequent packets received in sequence to the linked list.

In particular, independent claims 8 and 20 recite ordering the at least one of the in-sequence and the out-of-sequence packet chain from the memory based on the associated sequence number to provide one or more packet flows all in-sequence. Applicants respectfully submit that MAHER and LASSERS fail to disclose this feature.

The Examiner is of the opinion that MAHER shares all of the features of the claimed invention except creating a linked list each time a new data packet is received out-of-sequence. The Examiner uses LASSERS to show this feature. Applicants submit that neither of these references show creating a linked list each time a new data packet is received out-of-sequence.

MAHER

MAHER uses a context processor 110, which includes a queue engine 302, to receive a data packet and create a session ID based on predetermined attributes of the data packet. MAHER discloses that these attributes consist of a source address,

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destination address, source port, destination port and protocol. These attributes create a unique session ID to identify a particular traffic flow. (Col. 6, lines 20-31.) Each successive data packet with the same session information is assigned the same session id to identify each packet within that flow. (Col. 6, lines 28-31.) MAHER then uses a reordering and reassembly engine 312 to order data packets belonging to the same traffic flow based on the session ID. (Col. 8, lines 56-59.) In other words, MAHER puts all data packets into separate groups based on their session ID, or equivalently, based on what traffic flow the data packet belongs to.

The Examiner asserts on page 7 of the Office Action that MAHER has a sequence number with an address, and that the sequence number is used to provide one or more packet flows all in-sequence. The Examiner supports this assertion by referencing MAHER. (See col. 6, lines 20-22). The Examiner equates the session ID in MAHER with Applicants' sequence number. However, as explained above, the session ID in MAHER is not equivalent to a sequence ID. The session ID in MAHER merely identifies a particular traffic flow and does not identify particular packets within the traffic flow. Since particular packets in a traffic flow are not identified, they cannot be placed in-sequence. Therefore, Applicants respectfully submit that MAHER does not have a sequence ID to provide one or more packet flows all in-sequence.

Additionally, the Examiner asserts on page 7 of the Office Action that MAHER orders the at least one of the in-sequence and out-of-sequence packet chains based on the sequence number. To support this argument, the Examiner relies on col. 9, lines 6-13. However, Applicants respectfully submit that col. 9, lines 6-13 merely discusses scanning a data packet to determine if it comes from an active session ID or from an inactive session ID. This passage does not disclose putting data packets within a flow in-sequence. Therefore, Applicants respectfully submits MAHER fails to disclose a method for ordering packet flows all in-sequence.

LASSERS

As discussed above, LASSERS creates a new linked list only when a new originator arrives. LASSERS does not create a new linked list each time a new data packet is received out-of-sequence. Therefore, LASSERS fails to disclose creating a linked list each time a new data packet is received out-of-sequence and linking in order all subsequent packets received in sequence to the linked list.

Accordingly, Applicants respectfully request that the rejection over independent claims 8 and 20 be withdrawn. Additionally, Applicants submit that claims 10-14 depend from an allowable base claim 8. As such, claims 10-14 include the features of the base claim 8. Accordingly, Applicants respectfully submit that claims 10-14 include allowable subject matter.

Claims 9, and 15-19

Applicants submit that claims 9, and 15-19 depend from an allowable base claim 8. As such, claims 9, and 15-19 include the features of the base claim 8. Accordingly, Applicants respectfully submit that claims 9, 15-19 include allowable subject matter.

Accordingly, Applicants respectfully request that the rejection over claims 9 and 15-19 be withdrawn.

Other Matters

Claim 21 is added for the Examiner's consideration. The subject matter of claim 21 is allowable by virtue of its dependency on claim 1. As discussed above, no combination of the applied references teach or suggest the features of claim 21.

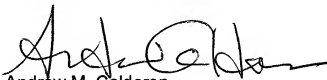
CONCLUSION

In view of the foregoing amendment and remarks, Applicants submits that all of the claims are patentably distinct from the prior art of record and are in condition for

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allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby makes a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 19-0089.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Andrew M. Calderon', written over a horizontal line.

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